

## **ABSTRACT**

*Because of it's easy of use, the user of cellular phone in Indonesia is growing bigger. Together with it, cellular based telecommunication technology also developing into better technology. To attract more customer, PT. Indosat need to give better service and satisfaction to the user when they use the communication service.*

*In developing cellular network, PT. Indosat build new channel provider link to convey the information in communication process. Using PDH and PDH transmission network through microwave link to get speed, big bandwidth, and reliable technology.*

*This final task will discuss about the process of cellular network planning focused on the reconfiguration planning of transport network and backbone microwave. This planning includes initialization or data compilation (from field survey). To make network configuration connecting Padang – Jambi – Palembang – Bengkulu – Lampung (southern part of sumatra) link, by counting backbone link capacity and the distance between backbone. To choose microwave radio Siemens equipment by it's working frequency, kind of the antenna, kind of transmission channel, and kind of modulation used. Path analysis (power link budget) against propagation attenuation and fading. And then evaluation of the planning result using software tool Pathloss 4.0 which will make the reconfiguration planning process of transport network and backbone microwave easier, either about site configuration or link budget analysis on each area.*

*This Reconfiguration planning of transport network and backbone microwave is to achieve link budget target and transmission link criteria and also to prevent interference between one transmission link with another according to ITU-R rule. Improvement is done with space diversity. For backbone link refer to ITU-R G 826 recommendation, with 99,999% availability. Transport network refer to ITU-R G 821 recommendation with the target 99,998% availability.*